REMARKS

Claims 1-34 remain pending in the application, with claims 1, 18 and 31-34 being the independent claims. In the Office Action, all pending claims were rejected under 35 USC § 103(a) over U.S. Patent 6,975,619 (Byers) in view of U.S. Patent 6,731,314 (Cheng). Withdrawal of this rejection is respectfully requested for the following reasons.

The present invention concerns systems, methods and techniques for permitting the transmission of geographic-specific information over a network, such as the Internet. Generally speaking, in accordance with the present invention, a data packet is received by a first node on a network from a second node on the network. Based on some indication of the number of hops made by the data packet (e.g., an embedded TTL value), a probe packet is sent out. Then, in response to the probe packet, a response packet is received from a device other than the second node. Based on identification information within the response packet, the first node obtains a geographic location and then transmits geographic-specific information to the second node based on the obtained geographic location.

By virtue of this arrangement, e.g., it often is possible for a server on the Internet to obtain at least a rough estimate of the geographic location of a client node on the Internet, even in situations where the client node previously has not communicated with the server. As a result, the server often can provide geographic-specific content to the client node with very little delay. For example, the first time that a client node visits a Web site provided by the server, the very first page downloaded to the client node typically will be capable of including content that is relevant to the geographic location of the client (e.g., information about local game scores, weather, news or shopping, and/or content in the local language). Moreover, the techniques of the present invention generally can allow this to happen without any noticeable additional delay.

In addition, the techniques of the present invention often permit geographic-specific information to be provided even if the client has disabled the storing of "cookies" on his or her hard drive. This is a distinct advantage over conventional techniques, which primarily rely on such cookies.

More specifically, independent claims 1, 31 and 33 are directed to communications by a first node on a network with a second node on the network, using additional communications with a third node on the network, with the first, second and third nodes being different nodes on the network. Initially, the first node on the network receives a data packet over the network from the second node on the network, with the data packet including a network identifier for the second node and a Time-To-Live (TTL) field that has a value, and with the value of the TTL field for the data packet indicating a maximum additional number of hops that could have been made by the data packet. The first node sends a probe packet addressed to the network identifier for the second node, the probe packet also including a TTL field having an initial value that is set based on the value for the TTL field of the data packet. The first node then receives a response packet from a third node on the network, in response to the probe packet. Thereafter, the first node obtains a geographic location for the third node based on node identification information in the response packet and transmits geographic-specific information over the network to the second node based on the geographic location obtained.

The foregoing combination of features is not disclosed or suggested by the applied art. In particular, no permissible combination of Byers and Cheng would have disclosed or suggested at least the combination of: setting the initial value of a TTL field for a probe packet based on the TTL value of an incoming data packet, receiving a response packet from a third node, obtaining a geographic location based on node identification information in the response packet, and then

transmitting geographic-specific information to the second node based on the obtained geographic location.

In this regard, Byers concerns network-based systems in which a requesting node queries a target node and, in response, the target node provides information regarding its geographic location to the requesting node. See, e.g., Byers' Abstract.

A necessary assumption underlying most of Byers' embodiments is that each target node actually knows its own geographic location (e.g., using GPS) and provides it in a response message. See, e.g., column 1 lines 57-60, column 3 lines 61-64, and column 4 lines 15-19 of Byers. Alternatively, Byers also discloses a system in which the target node is a telephone user, the telephone network knows the target node's geographic location, and a separate remote access server retrieves the geographic location of the target node from the telephone network and provides it to the requesting node. See, e.g., column 5 lines 24-37 of Byers. In either event, the underlying concept in Byers is relatively straightforward: the requesting node issues a request for the geographic location of a target node and then the node to which the request was directed simply provides the requested information.

In order to implement this technique, Byers contemplates the modification of the Internet Control Message Protocol (ICMP) response to a TTL timeout condition. Specifically, in Byers' technique the ICMP response message is extended so as to include an additional field that indicates the target node's geographic location. See, e.g., column 4 lines 44-57 of Byers.

Byers contemplates two possible implementation techniques: a traceroute technique, in which all nodes along the pathway are queried, and a pinging technique, in which only the target node is queried. See, e.g., column 2 lines 31-49 of Byers.

In both such implementation techniques, it is appears that conventional traceroute or pinging, as applicable, is used, modified only by extending the response message to include a geographic-information field, as noted above. That is, there appears to be no indication in Byers that the conventional techniques are to be modified other than by extending them to include such a geographic-information field. As a result, the requesting node generates its queries based solely on the IP address of the target node, and not based on the TTL value of any other message or, for that matter, based on anything else.

The Office Action cites various specific portions of Byers in rejecting the present independent claims. These specific portions of Byers are now addressed in detail, and can be fully understood within the context of Byers' overall approach, as such approach is summarized above.

Column 5 lines 24-37 of Byers was cited in the Office Action as allegedly showing the presently recited feature of a first node on a network receiving a data packet over the network from a second node on the network. In response, it is noted that this portion of Byers describes a technique in which the target node uses a dial-up connection and, in response to a geographic-location request from the requesting node, a separate remote access server retrieves the geographic location of the target node from the telephone network and provides it to the requesting node.

It is not entirely clear what each of the recited "first node", received "data packet" and "second node" are alleged to read on in this embodiment of Byers' system. Presumably, however, the Office Action is asserting that the first node corresponds to Byers' requesting node, the second node corresponds to the remote access server, and the data packet corresponds to the

geographic location provided by the remote access server to the requesting node. If this assumption is incorrect in any respect whatsoever, clarification is respectfully requested.

This proposed mapping might work with respect to the very specific feature of the present independent claims with respect to which it is asserted. However, such a mapping falls apart within the overall context of such independent claims, as will become apparent in the discussion of the other claim features set forth below.

In the Office Action, column 4 lines 35-57 of Byers was cited as allegedly showing the presently recited feature that the received data packet includes a network identifier for the second node and a Time-To-Live (TTL) field. However, this portion of Byers instead merely discusses the geographic-location requests sent by Byers' requesting node. As noted in this portion of Byers, one technique for doing so is to use a conventional traceroute process, in which the TTL field of each successive traceroute packet is incremented until a response is received from the target node (as indicated by the IP address in the response), thereby providing a response from each node along the path from the requesting node to the target node.

Initially, it is noted that this step of the requesting node transmitting geographic-location requests, in Byers' technique, would precede the sending of the alleged "data packet" by Byers' remote access server. Moreover, column 4 lines 35-57 of Byers is describing the contents of a message sent by Byers' requesting node and not what is in a "data packet" received by Byers' requesting node.

Lastly, with respect to the present feature of the invention, it is further noted that there is nothing in Byers to indicate that its alleged "data packet" (i.e., the message sent from the remote access server) includes either a TTL field or a network identifier for the second node (i.e.,. Byers' target node).

Column 4 lines 40-55 of Byers is cited in the Office Action as allegedly showing the presently recited feature of the first node sending a probe packet addressed to the network identifier for the second node, with the probe packet including a TTL field that has an initial value set based on the value for the TTL field of the data packet. As to this assertion, Applicant acknowledges that the cited portion of Byers does in fact describe the requesting node sending a probe packet that includes a TTL field. However, an initial value for that field clearly is not set based on the value for the TTL field in any received data packet. Rather, as discussed above, the TTL fields in Byers' traceroute location requests (which apparently are asserted to correspond to the recited "probe packet") are simply set in a predetermined manner, beginning with 1 and incrementing for successive location requests, as in a conventional traceroute technique.

In fact, the TTL field of Byers' location request could not possibly be set based on the value for the TTL field in the asserted "data packet" (i.e., the message sent from the remote access server), because Byers' location request (allegedly corresponding to the presently recited "probe packet") is sent before the asserted "data packet" is received. That is, the asserted "data packet" is received in response to Byers' location request.

In addition, it appears that the Office Action is asserting that both the presently recited TTL field in the received data packet and the presently recited TTL field in the probe packet read on precisely the same TTL field referenced in Byers, i.e., the TTL field referenced at column 4 lines 49-53 of Byers. However, it is not possible that both such claim elements could read on the TTL field in Byers' location request. Moreover, it is equally apparent that Byers' TTL field pertains to the location request only and is not based on the TTL field for any received data packet.

Finally, the Office Action acknowledges that Byers does not disclose or suggest the presently recited features that the first node obtains a geographic location for a third node based on node identification information in the response packet and that the first node transmits geographic-specific information over the network to the second node based on the geographic location obtained. In order to make up for this deficiency, the Office Action cites Cheng and asserts that it would have been obvious to combine Cheng with Byers.

However, the Office Action's discussion of Cheng only mentions aspects of Cheng that, even if in fact disclosed by Cheng, do not appear to be related in any way to the presently recited claim limitations. For example, the Office Action refers to a server that holds files for one or more sites or a single site that is implemented across multiple servers. It is not at all clear how such features relate in any way to the presently recited features, which admittedly are missing from Byers. In fact, the Office Action does not even attempt to allege that Cheng shows the specific features of the present invention (identified in the preceding paragraph) that are acknowledged as being missing from Byers.

The remarks made above are based on Applicant's best understanding of the alleged correspondence between the present independent claims and Byers. As shown above, a detailed analysis of the mapping proposed in the Office Action reveals that Byers lacks several features of the present invention. Accordingly, withdrawal of this rejection is respectfully requested.

On the other hand, if the rejection is maintained, Applicant respectfully requests that the Examiner provide a clear mapping between each element of the present independent claims and the allegedly corresponding element in the prior art.

For all of the foregoing reasons, independent claims 1, 31 and 33 are believed to be allowable over the applied art.

Independent claims 18, 32 and 34 are directed to communications by a first node on a network with a second node on the network. Initially, the first node on the network receives a data packet from the second node on the network, the data packet having arrived at the first node via an inbound path defined by an ordered sequence of routers, and with the first and second nodes being different nodes on the network. The first node estimates a number of hops made by the data packet based on information contained within the data packet. Then, the first node transmits probe packets designed, based on such number of hops, to elicit responses from a group of network devices that primarily includes a first few routers on the inbound path. Next, the first node receives response packets from the network devices, in response to the probe packet and obtains a geographic location for the second node based on node identification information in the response packets. Finally, the first node transmits geographic-specific information over the network to the second node based on the geographic location obtained.

These claims were rejected for the same reasons as those used in rejecting independent claims 1, 31 and 33. Based on the descriptions of the cited portions of the applied art set forth above, the applied art does not disclose or suggest at least the features of: a first node transmitting probe packets designed, based on the number of hops estimated to have been made by a data packet from a second node, to elicit responses from a group of network devices that primarily includes a first few routers on the inbound path; the first node obtaining a geographic location for the second node based on node identification information in the response packets; and the first node transmitting geographic-specific information over the network to the second node based on the geographic location obtained.

Accordingly, independent claims 18, 32 and 34 also are believed to be allowable over the applied art.

The other rejected claims in this application depend from the independent claims discussed above, and are therefore believed to be allowable for at least the same reasons. Because each dependent claim also defines an additional aspect of the invention, however, the individual reconsideration of each on its own merits is respectfully requested.

In order to sufficiently distinguish Applicant's invention from the applied art, the foregoing remarks emphasize several of the differences between the applied art and Applicant's invention. However, no attempt has been made to categorize each novel and unobvious difference. Applicant's invention comprises all of the elements and all of the interrelationships between those elements recited in the claims. It is believed that for each claim the combination of such elements and interrelationships is not disclosed, taught or suggested by the applied art. It is therefore believed that all claims in the application are fully in condition for allowance, and an indication to that effect is respectfully requested.

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Respectfully submitted,
JOSEPH G. SWAN, P.C.

By /Joseph G. Swan/
Joseph G. Swan
Registration No. 41,338

JOSEPH G. SWAN,
A PROFESSIONAL CORPORATION
1334 Parkview Avenue , Suite 100
Manhattan Beach, California 90266
Telephone: (310) 372-8624
Facsimile: (310) 356-3845